

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
**WO 2004/006180 A3**

(51) International Patent Classification<sup>7</sup>: **G09G 5/00**

(21) International Application Number:  
PCT/US2003/020224

(22) International Filing Date: 30 June 2003 (30.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/395,165 10 July 2002 (10.07.2002) US

(71) Applicant: **HARMAN INTERNATIONAL INDUSTRIES, INC.** [US/US]; 8500 Balboa Boulevard, Northridge, CA 91329 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **STRASSENBURG-**

**KLECIAK, Marek** [DE/DE]; Johannes-Schult-Weg 8, D-22359 Hamburg (DE). **NAGEL, Philipp, Harald** [DE/DE]; Jahnstrasse 28d, 27220 Seevetal (DE).

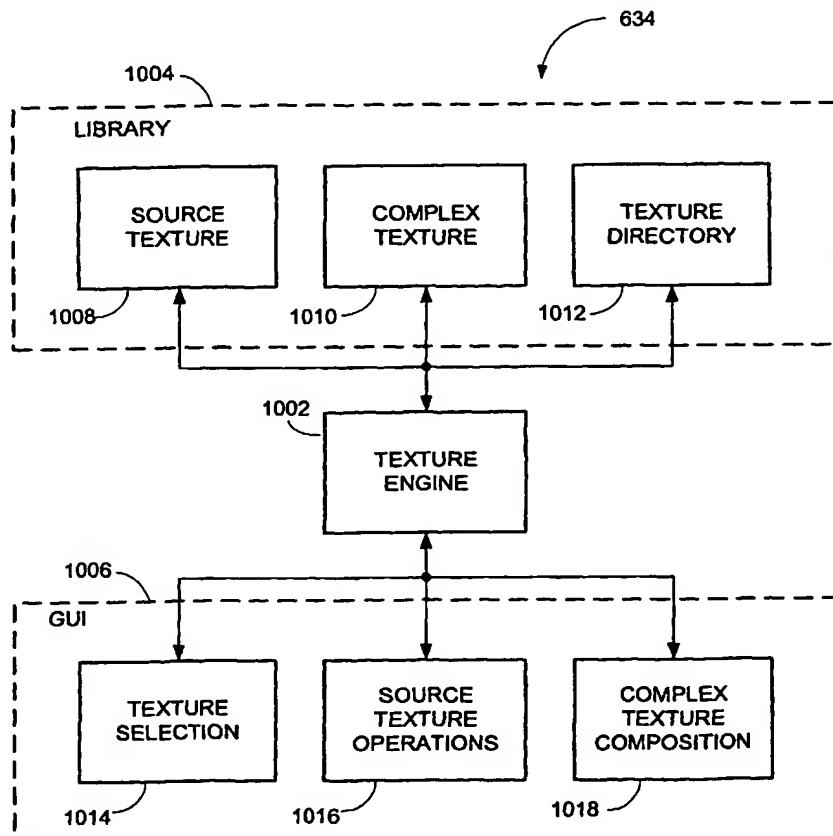
(74) Agent: **HILLIS, Sanders, N.**; Brinks Hofer Gilson & Lione, One Indiana Square, Suite 1600, Indianapolis, IN 46204 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: **SYSTEM FOR TEXTURIZING ELECTRONIC REPRESENTATIONS OF OBJECTS**



(57) Abstract: A texturizing system for texturizing electronic representations of objects includes a texture library (1004), a texture engine (1002) and a graphical user interface module (1006). A source texture (1102) may be stored in the library (1004) with an associated unique identifier (1206). The source texture (1102) may be manipulated with the graphical user interface module (1006) to form a complex texture (1100). Manipulations to form the complex texture (1100) may be captured and stored in the texture library (1004) as a transformation procedure (1110) with a unique identifier (1206). The unique identifier (1206) of either the complex texture (1100) or the source texture (1102) may be associated with a surface of an electronic representation of an image. When the electronic representation is displayed, the transformation procedure (1110) is performed and the surface associated with the transformation procedure (1110) may be texturized.



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:  
18 March 2004

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/20224

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G09G 5/00

US CL : 345/582

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 345/582-588

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---	US 5,194,969 A (DIFRANCESCO) 16 March 1993 (16.03.1993), abstract, lines 1-8, column 2, lines 22-30 and 45-58, column 4, lines 22-42 and 54-58, column 5, lines 17-22 and 48-58, columns 7-8, lines 67-32. columns 8-9, lines 58-10.	1, 2, 6 ----- 3-5, 7-17
X ---	US 5,471,572 A (BUCHNER et al.) 28 November 1995 (28.11.1995), column 1, lines 21-24, column 3, lines 25-27, column 4, lines 8-19 and 57-66, column 5, lines 1-31 and 51-52, column 14, lines 53-60..	18, 21, 25 ----- 3, 7-11, 16-17, 19, 20, 22, 23, 26, 27, 30-32, 37-50
Y	US 5,802,361 A (WANG et al.) 01 September 1998 (01.09.1998), column 16, lines 4-14 and Figures 1 and 5e.	5, 23, 35, 44-50
X ---	US 6,285,373 B1 (BALDWIN et al.) 04 September 2001 (04.09.2001), abstract, lines 1-2, column 4, lines 44-50, column 16, lines 4-14 and Figure 5.	29, 51 ----- 19, 20, 22, 26, 27, 30-32, 35, 36-43
Y		



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search	Date of mailing of the international search report
04 December 2003 (04.12.2003)	06 FEB 2004
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Matthew Bella Telephone No. (703) 306-0377